Chemicals and Related Products

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Change in 2004 from 2003:

U.S. trade deficit: Decreased $1.3 billion (6 percent) to $20.3 billion
U.S. exports: Increased $19.1 billion (19 percent) to $121.4 billion
U.S. imports: Increased $17.8 billion (14 percent) to $141.7 billion

In 2004 the U.S. trade deficit in chemicals and related products improved for the first time during the 2000–2004 period. This shift was primarily due to a slowdown in the rapid growth of imports of medicinal chemicals[1] that had taken place during 2001–2003, along with a significant increase in exports of certain plastics materials and products in 2004. The United States had registered a trade surplus in the chemicals and related products sector until 2000, when the first deficit ($2.9 billion) occurred largely because of increased pharmaceutical imports from Ireland and other western European countries (table CH-1). In 2004, medicinal chemicals imports valued at $53 billion accounted for 37 percent of total chemical sector imports. Medicinal chemicals imports from Ireland alone were valued at $16 billion in 2004 and accounted for more than 11 percent of all chemical sector imports.

U.S. exports of chemicals and related products rose significantly for the second consecutive year, increasing $19.1 billion (19 percent) in 2004 after rising $10.6 billion (12 percent) in 2003. In 2004, sector products that showed the greatest export growth by value included organic commodity chemicals (72 percent, or $1.9 billion); polyethylene resins in primary forms (31 percent, or $881 million); certain organic chemicals (27 percent, or $2.4 billion); and medicinal chemicals (20 percent, or $4.6 billion).

In 2004 the U.S. chemical industry grew at a pace not seen since the late 1990s. Although feedstock prices increased dramatically for much of the industry, prices also rose significantly, and increased demand created growth spurts in sales and profits.[2] Economic factors that affected the U.S. chemical industry in 2004 included the weakened state of the U.S. dollar, which increased the purchasing power of foreign entities; a decline in payrolls in concert with increased worker productivity; and increased U.S. demand for consumer products that depend on inputs from the chemical and allied products sector.

The strength of the U.S. chemical industry in 2004 was also demonstrated by its 11 percent increase in shipments (14 percent if pharmaceuticals are excluded). In 2004, individual chemical and related products industry segments that experienced growth in production, after remaining relatively stable during the previous 2 years, included organic chemicals (7 percent); resins, synthetic rubber and fibers (5 percent); and pharmaceuticals (6 percent).[3]

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[1] Medicinal chemicals include pharmaceutical active ingredients and formulated products.

[2] William J. Storck, "Last Year Was Kind to the U.S. Chemical Industry, 2005 Should Provide Further Growth," *Chemical & Engineering News*, Jan. 10, 2005, pp. 16–18. Partial-year data indicated that earnings rose nearly 65 percent in 2004, and industry-wide profit margins increased by more than 40 percent. Ibid., p. 16.

[3] Ibid., p. 17 (based on official statistics of the Federal Reserve Board and *Chemical & Engineering News* estimates). Percent changes are based on production indexed to its 1997 level.

Table CH-1

Chemicals and related products: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2000–2004[1]

Item	2000	2001	2002	2003	2004	Change, 2004 from 2003	
						Absolute	*Percent*
			Million dollars				
U.S. exports of domestic merchandise:							
Canada	20,327	19,692	20,115	21,516	23,495	1,979	9.2
Ireland	1,252	1,120	1,270	1,391	1,591	200	14.4
Mexico	13,105	12,266	12,444	13,300	15,797	2,497	18.8
Japan	6,267	6,105	5,762	6,176	7,153	977	15.8
Germany	2,977	3,059	2,886	3,769	4,922	1,154	30.6
United Kingdom	4,355	5,806	5,179	5,089	5,413	324	6.4
China	2,430	2,315	3,069	3,816	5,061	1,245	32.6
France	2,852	3,032	3,185	3,488	4,142	654	18.7
Belgium	4,640	4,547	5,240	6,856	7,295	439	6.4
Netherlands	3,896	3,812	4,127	5,219	7,294	2,076	39.8
All other	30,334	29,520	28,425	31,710	39,220	7,511	23.7
Total	92,433	91,274	91,702	102,330	121,383	19,054	18.6
EU-15	23,166	24,711	25,058	29,275	34,954	5,679	19.4
OPEC	1,994	2,091	1,761	1,621	2,195	574	35.4
Latin America	22,175	21,664	20,713	21,913	26,557	4,644	21.2
CBERA	2,025	2,176	2,188	2,225	2,467	242	10.9
Asia	20,251	18,651	19,754	22,490	27,513	5,023	22.3
Sub-Saharan Africa	710	780	699	717	867	151	21.0
Central and Eastern Europe	287	304	278	333	365	33	9.8
U.S. imports of merchandise for consumption:							
Canada	15,858	16,398	16,673	18,440	21,996	3,556	19.3
Ireland	11,452	13,355	16,282	19,117	19,488	371	1.9
Mexico	3,473	3,388	3,637	3,779	4,790	1,011	26.7
Japan	9,563	8,601	9,099	10,121	10,684	563	5.6
Germany	7,377	7,662	8,892	9,497	11,064	1,567	16.5
United Kingdom	7,223	7,466	8,195	9,450	9,843	392	4.2
China	4,942	5,333	6,262	7,438	9,287	1,849	24.9
France	4,070	4,883	5,119	6,338	7,333	994	15.7
Belgium	1,670	2,090	2,054	1,895	2,569	674	35.6
Netherlands	1,492	1,541	1,523	1,681	1,867	186	11.1
All other	28,174	27,847	29,188	36,165	42,762	6,597	18.2
Total	95,295	98,564	106,924	123,922	141,683	17,760	14.3
EU-15	39,410	42,784	48,700	56,408	62,016	5,608	9.9
OPEC	5,590	4,742	5,024	6,944	9,741	2,798	40.3
Latin America	8,326	7,778	7,904	8,917	11,315	2,398	26.9
CBERA	1,286	1,312	1,109	1,724	2,049	325	18.9
Asia	21,341	20,777	22,768	26,810	30,487	3,676	13.7
Sub-Saharan Africa	1,454	660	448	598	716	118	19.7
Central and Eastern Europe	791	1,167	1,199	1,385	1,198	-188	-13.5

See footnote(s) at end of table.

Table CH-1—*Continued*

Chemicals and related products: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 2000–2004[1]

Item	2000	2001	2002	2003	2004	Change, 2004 from 2003	
						Absolute	*Percent*
			Million dollars				
U.S. merchandise trade balance:							
Canada	4,469	3,294	3,442	3,076	1,499	-1,578	-51.3
Ireland	-10,201	-12,235	-15,012	-17,727	-17,897	-171	-1.0
Mexico	9,632	8,878	8,807	9,521	11,007	1,486	15.6
Japan	-3,296	-2,496	-3,337	-3,945	-3,531	413	10.5
Germany	-4,401	-4,603	-6,007	-5,728	-6,142	-413	-7.2
United Kingdom	-2,868	-1,660	-3,016	-4,361	-4,429	-68	-1.6
China	-2,512	-3,017	-3,193	-3,622	-4,225	-604	-16.7
France	-1,218	-1,851	-1,934	-2,850	-3,191	-341	-12.0
Belgium	2,970	2,457	3,186	4,961	4,726	-235	-4.7
Netherlands	2,403	2,271	2,605	3,537	5,427	1,889	53.4
All other	2,159	1,672	-763	-4,455	-3,541	914	20.5
Total	-2,862	-7,290	-15,222	-21,592	-20,299	1,293	6.0
EU-15	-16,244	-18,073	-23,642	-27,133	-27,062	71	0.3
OPEC	-3,596	-2,651	-3,263	-5,322	-7,546	-2,223	-41.8
Latin America	13,849	13,886	12,809	12,996	15,242	2,246	17.3
CBERA	738	864	1,079	501	418	-84	-16.7
Asia	-1,090	-2,126	-3,015	-4,320	-2,973	1,347	31.2
Sub-Saharan Africa	-744	120	251	118	151	33	27.5
Central and Eastern Europe	-504	-863	-921	-1,052	-832	220	20.9

[1]Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export.

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 2004.

Source: Compiled from official statistics of the U.S. Department of Commerce.

In 2004 the major U.S. trading partners in chemicals and related products by value were Canada, Ireland, Mexico, Japan, and Germany. Canada (16 percent), Ireland (14 percent), Germany (8 percent), and Japan (8 percent) were the largest sources of U.S. imports. NAFTA partners Canada (19 percent) and Mexico (13 percent) were the two largest markets for U.S. chemical exports in 2004, as they have been for the last 5 years (see table CH-1).

U.S. trade with Canada consisted primarily of imports and exports of polyethylene in primary forms, pneumatic tires, medicaments in prepared dosages, and various miscellaneous plastics products (MPPs). U.S. imports from Ireland, Japan, and Germany were primarily medicinal chemicals or the chemical intermediates used to produce medicinal chemicals.

The continued strength in chemical imports from Ireland resulted primarily from increased investment in manufacturing facilities during the last decade by the global pharmaceutical industry. Pharmaceutical companies continue to emphasize development of world-class facilities in locations that provide favorable tax treatment or lower costs, such as Ireland.[4]

In 2004, U.S. exports of pharmaceuticals, certain organic chemicals, and organic specialty chemicals exhibited the largest overall increases, although export growth in the chemicals and related products sector was generally widespread among many items. The continued rise in U.S. exports of pharmaceuticals was, in part, because of intracompany sales by multinational firms. Increased exports in other chemical sectors resulted from the continued decrease of the value of the dollar. U.S. exports to Mexico consisted primarily of MPPs, cyclic hydrocarbons, and various plastics materials in primary forms.

The increase in trade in 2004 was also evident in broad increases of U.S. chemical imports. The largest increases in U.S. imports were medicinal chemicals, MPPs, and certain organic chemicals (table CH-2). U.S. imports of fertilizers increased by 25 percent in 2004, with anhydrous ammonia accounting for $1.7 billion (31 percent) of imports. The unit value of imported ammonia increased from $184 per short ton in 2003 to $235 per short ton in 2004. Prices of nitrogen-based fertilizers rose 16 percent in 2004 after having increased by 26 percent the previous year.[5] Bureau of Labor Statistics pricing data indicate a continued increase in domestic costs for fertilizer materials throughout 2004; indexed average annual costs increased by 17 percent.[6]

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[4] "Pharma Company Investments in Parenteral Manufacturing Capacity Picking Up," *Pharmaceutical Technology*, Oct. 2004, p. 152.

[5] Price increase information based on published price indices. See FAPRI - University of Missouri, *Fertilizer and Fuel Prices and Cost of Production*, Sept. 2, 2004.

[6] Bureau of Labor Statistics, U.S. Department of Labor, *Producer Price Index - Commodities (fertilizer materials)*, found at *http://data.bls.gov*, retrieved Apr. 5, 2005.

Table CH-2
Leading changes in U.S. exports and imports of chemicals and related products, 2000–2004[1]

Industry/commodity group	2000	2001	2002	2003	2004	Change, 2004 from 2003	
						Absolute	*Percent*
	Million dollars						
U.S. EXPORTS:							
Increases:							
Medicinal chemicals (CH025)	15,772	18,169	18,742	22,527	27,098	4,571	20.3
Certain organic chemicals (CH012)	8,257	7,774	7,668	8,857	11,283	2,426	27.4
Organic commodity chemicals (CH010)	2,146	1,494	2,010	2,692	4,631	1,939	72.0
Other plastics in primary forms (CH036)	7,305	6,766	7,189	7,694	9,106	1,411	18.3
Miscellaneous plastic products (CH041)	13,804	12,561	12,567	13,041	14,307	1,267	9.7
Decreases:							
Photographic chemicals and preparations (CH022)	507	413	522	475	435	-40	-8.4
All other	44,642	44,099	43,004	47,043	54,522	7,479	15.9
TOTAL	92,433	91,274	91,702	102,330	121,383	19,054	18.6
U.S. IMPORTS:							
Increases:							
Medicinal chemicals (CH025)	29,112	33,956	40,699	49,284	52,677	3,392	6.9
Miscellaneous plastic products (CH041)	12,307	12,376	13,459	14,979	17,342	2,363	15.8
Certain organic chemicals (CH012)	5,049	5,148	4,699	4,878	5,811	933	19.1
Organic commodity chemicals (CH010)	1,201	1,021	1,111	1,319	1,997	677	51.3
Other plastics in primary forms (CH036)	2,786	2,649	2,823	3,022	3,488	466	15.4
Decreases:							
Gelatin (CH043)	103	94	96	115	113	-2	-1.8
All other	44,737	43,321	44,037	50,324	60,255	9,930	19.7
TOTAL	95,295	98,564	106,924	123,922	141,683	17,760	14.3

[1]Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export.

Note.—Calculations based on unrounded data.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Organic Commodity Chemicals

Change in 2004 from 2003:

U.S. trade surplus: Increased $1.3 billion (92 percent) to $2.6 billion
U.S. exports: Increased $1.9 billion (72 percent) to $4.6 billion
U.S. imports: Increased $0.7 billion (51 percent) to $2.0 billion

The U.S. trade surplus for organic commodity chemicals[7] grew in 2004 as a result of a substantial increase in U.S. exports. The majority of the increase in exports was accounted for by an increase of $1.1 billion in exports to Asia, with Taiwan and Korea accounting for the largest share of the Asian market and most of the growth in exports to the region (an increase of $883 million). U.S. exports to Mexico and Canada, the first- and fourth-largest export markets, respectively, grew by a combined $510 million in 2004, with Mexico accounting for the bulk of the increase ($310 million). The majority of the increase in U.S. imports in 2004 of these chemicals was accounted for by growth in imports from Canada, which rose $411 million (84 percent) to $903 million.

U.S. exports

U.S. exports of organic commodity chemicals increased by value as a result of global economic growth, particularly in Taiwan and Korea,[8] the two largest U.S. export markets in Asia in 2004;[9] higher prices for these chemicals; and tighter supplies of petroleum feedstocks. U.S. exports of these chemicals to Korea increased by value primarily because of two products: para-xylene and styrene. U.S. exports of para-xylene to Korea increased in volume from 212 million liters to 378 million liters (78 percent) and in unit value from $0.43 per liter to $0.63 per liter (46 percent).[10] Industry sources attributed the increased demand for para-xylene, in part, to higher production in Korea of terephthalic acid (TPA), the primary downstream intermediate product for para-xylene. In contrast, reflecting the tightening markets for petroleum feedstocks, U.S. exports of styrene to Korea experienced only a moderate growth in volume, from 159,000 metric tons (MTs) to 205,000 MTs (29 percent) but a much higher growth in unit value, from $0.63 per kg to $1.08 per kg (72 percent). According to an industry source, some U.S. exports of styrene to Korea were likely transshipments to China or replacements for those transshipments.[11]

U.S. exports of organic commodity chemicals to Taiwan increased by value partly as a result of shipments of higher-valued styrene.[12] In 2004, U.S. exports of styrene to Taiwan tripled in volume, from 64,000 MTs to 194,000 MTs, and rose in unit value from $0.63 per kg to $1.02 per kg (62 percent).

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[7] This commodity grouping consists of 15 organic chemicals (including some of their salts) and 6 organic chemical subgroupings. However, the bulk of U.S. exports and imports was accounted for by six chemicals: cyclohexane, para-xylene, styrene, phenol (including salts), terephthalic acid (including salts), and cumene. The organic commodity chemicals generally produced from petroleum are used as intermediates to produce other chemicals, which, in turn, are used to manufacture a wide variety of end-use products, including construction materials, apparel, adhesives, plastics, and tires.

[8] The gross domestic product for Taiwan and Korea increased by an estimated 6 percent and 5 percent, respectively, in 2004. Jean-Francois Tremblay, "World Chemical Outlook: Asia-Pacific," *Chemical & Engineering News*, Jan. 10, 2005, pp. 26–29.

[9] Although possessing smaller economies than China and Japan, the value of U.S. exports of this commodity grouping to Taiwan and Korea in 2004 exceeded U.S. exports to China and Japan which amounted to $430 million and $27 million, respectively.

[10] The relative impact of demand and price can often be distinguished in U.S. trade statistics by comparing the change in volume with the change in unit value.

[11] Industry consultant, telephone interview with USITC staff, Mar. 22, 2005.

[12] According to an analyst in the U.S. Department of Commerce (Commerce), U.S. trade statistics reporting a large increase in 2004 of U.S. exports of cyclohexane to Taiwan may be incorrect because of a classification error. Commerce is continuing to investigate this matter.

Increased production in Taiwan in 2004 of downstream intermediate chemicals made from styrene, especially polystyrene and styrene-butadiene polymers, buoyed by strong economic growth in Taiwan was largely responsible for this increase. Polystyrene and styrene-butadiene polymers are used to make many products, including insulating materials, cups, tires, and footwear.

U.S. exports of organic commodity chemicals to Mexico increased by value largely as a result of higher unit values of U.S. shipments of styrene. According to industry sources, some of the exported styrene is converted in Mexico to polystyrene, a plastic resin, which is then used to make finished products. Polystyrene is used to make many products, including appliance parts, insulation materials, and cups.[13] Demand for chemical feedstocks in Mexico is rising as the country is engaged in a major effort to increase petrochemical capacity and production.[14]

U.S. imports

U.S. imports of organic commodity chemicals increased by value in 2004 primarily because of two products from Canada: TPA and styrene. U.S. imports of TPA from Canada, minor in 2003, amounted to 369,000 MTs in 2004. Industry sources attribute this volume increase largely to the opening of a TPA plant near Montreal, whose excess capacity was shipped to the United States. The value of these imports was higher as well because of rising petroleum feedstock prices and a weaker U.S. dollar. In contrast, although the volume of U.S. imports of styrene from Canada remained essentially unchanged during 2003 and 2004 at about 580,000 MTs, the absolute value of these imports rose from $419 million to $573 million (37 percent), and the unit value increased from $0.73 per kg to $0.98 per kg (34 percent). Industry sources attribute the increase to higher styrene prices caused by rising petroleum feedstock prices and the weaker U.S. dollar.

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[13] U.S. trade in commodity organic chemicals to and from Mexico and Canada is characterized by intense cross-border company cooperation aimed at increasing efficiency and reducing costs. For example, cross-border trade is oriented toward maximizing production on either side of the border of lower cost chemicals which typically depend on the availability and costs of feedstocks. Another rationale for cross-border trade in chemicals is the desire to reduce transportation costs. A company can achieve this goal by swapping chemicals with another producer to reduce the shipment distances and costs to the major markets for that chemical.

[14] Alexander H. Tullo, "World Chemical Outlook: Latin America," *Chemical & Engineering News*, Jan. 10, 2005, pp. 21–22.

Medicinal Chemicals

Change in 2004 from 2003:

U.S. trade deficit: Decreased $1.2 billion (4 percent) to $25.6 billion
U.S. exports: Increased $4.6 billion (20 percent) to $27.1 billion
U.S. imports: Increased $3.4 billion (7 percent) to $52.7 billion

Because of the continuing world economic expansion, the U.S. chemical industry, including the medicinal chemicals industry,[15] had its best year in the past several years despite rising energy and feedstock costs. Rising global and U.S. demand for medicinal chemicals resulted in the domestic production output index for these products increasing from 127.6 to 135.0 (6 percent) in 2004.[16]

In 2004, 24 new molecular entities were approved by the Food and Drug Administration, compared with 21 in 2003. These products, often higher priced than other medicinals, likely contributed to the increased value of U.S. exports of medicinal chemicals in 2004.[17] Outsourcing the production of these newer products to independent specialized producers in countries such as Germany, the United Kingdom, and France is believed to account for some of the increased imports of medicinal chemicals from certain major suppliers in 2004.

U.S. exports

The significant increase in the value of U.S. medicinal exports in 2004 resulted from the rising demand by aging populations in areas of increasing economic growth (e.g., the Netherlands, Canada, Germany, and the United Kingdom, which were the four largest U.S. export markets for medicinal chemicals in 2004), the declining value of the dollar compared with other currencies, and the continuing globalization of this industry.[18] The four largest export markets accounted for $12.1 billion (45 percent) of total U.S. exports of medicinal chemicals in 2004.

U.S. imports

U.S. imports of medicinals increased $3.4 billion (7 percent) to $52.7 billion in 2004. The major suppliers to the U.S. market by value were Ireland ($16.1 billion), the United Kingdom ($6.8 billion), and Germany ($5.3 billion). Together, these three countries accounted for more than 53 percent of total U.S. medicinal imports in 2004.

Over the past several years, Ireland has been the largest supplier of medicinal chemicals to the United States due to its favorable tax policy toward high technology industries such as medicinal chemicals, the availability of skilled workers, and relatively lower production costs. In 2004, U.S. imports from Ireland declined slightly (less than 1 percent), while imports from Germany increased more than 21 percent. Germany's rise in exports to the United States was mainly because of continuing intracompany trade and outsourcing, while the decline in imports from Ireland was believed to be due to a drop in

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[15] This industry/commodity group includes pharmaceutical active ingredients and formulated products containing pharmaceutical active ingredients.

[16] William J. Storck, "World Chemical Outlook," *Chemical & Engineering News*, Jan. 10, 2005, p. 17 (based on official statistics of the Federal Reserve Board and *Chemical & Engineering News* estimates). Percent changes are based on production indexed to its 1997 level.

[17] Patricia Van Arnum, "Looking Beyond Big Pharma for Fine Chemicals Growth," *Chemical Marketing Reporter*, Jan. 17, 2005, p. FR3.

[18] As a firm expands into more foreign markets, it usually becomes more economical to produce a specific medicinal chemical at one major plant and then ship the product to their subsidiaries rather than to produce it in several countries.

demand for certain types of medicinals coupled with rising raw materials costs, especially in the third and fourth quarters of 2004.

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Miscellaneous Plastic Products

Change in 2004 from 2003:

U.S. trade deficit: Increased $1.1 billion (57 percent) to $3.0 billion
U.S. exports: Increased $1.3 billion (10 percent) to $14.3 billion
U.S. imports: Increased $2.4 billion (16 percent) to $17.3 billion

Rising imports from China and Canada in 2004 drove the increase in the U.S. trade deficit in MPPs,[19] which equaled the deficit's rise in 2003. This deficit increase was accompanied by strengthening U.S. consumer demand fueled by low interest rates,[20] suggesting the creation of more demand for a myriad of consumer items and construction products purchased through mass merchandising discount outlets and retail chains.[21] The increasing economic integration and interdependence of countries also suggests the continued participation of U.S. and multinational firms in new primary plastics and MPPs projects in Asia and more trade potential with the United States.[22]

U.S. exports

U.S. exports rose in 2004 because of the declining value of the U.S. dollar relative to foreign currencies, especially the euro; the improving U.S. economy and rising NAFTA export trade with Canada and Mexico; and a suggested continuation of increasing economic integration and interdependence of countries outside of NAFTA in which there was U.S. and multinational participation in joint-venture projects, especially in Asia. In 2004, Mexico and Canada were the main markets for MPPs, accounting for $8.1 billion (57 percent) of U.S. MPPs exports.[23] Asian countries, in aggregate, accounted for $2.5 billion (17 percent) of U.S. exports, followed by the European Union with $2.2 billion (15 percent). About $9.3 billion (65 percent) of U.S. MPPs exports was attributable to three product areas: consumer goods sold at the retail level in department stores, pharmacies, and hardware stores; packaging articles, particularly plastic bags and sacks of many varieties; and sheet and film used for the packaging of products and other purposes.[24]

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[19] This industry/commodity group includes fabricated and semi-fabricated miscellaneous plastic products (MPPs) used for a wide variety of consumer and industrial products enumerated in Chapter 39 of the Harmonized Tariff Schedule of the United States (HTS). Selected examples of MPPs include food/commodity packaging films and containers; grocery and shopping bags; buckets, pails, tarpaulins and other coverings; sporting goods components; Naugahyde® upholstery and flexible case materials; scrap foam for carpet and other padding; floor and wall coverings; medical goods and gloves; polyester tire cord and strapping; plumbing supplies and fixtures; container closures; belts and hoses; electrical, packaging, and sealing tapes; and vinyl siding, flooring, window frames, doors, and decking products and components.

[20] *Economic Report of the President* (Washington, DC: U.S. Government Printing Office, Feb. 2005), p. 212, table B-3, found at *http://www.whitehouse.gov/cea/erpcover2005.pdf*, retrieved Apr. 14, 2005.

[21] Sources at the Executive Branch level cited rising growth in the U.S. trade deficit as reflective of higher growth in the U.S. economy compared to the economies of its major trading partners. Paul Blustein, "Trade Gap Hits Yet Another Record," *Washington Post*, Apr. 13, 2005, p. E1.

[22] The United States is typically more vulnerable to net imports of certain MPPs from labor-intensive industries as compared with the plastic resins sector, which is generally more automated and relatively less labor intensive.

[23] Mexico, the only country with which the United States enjoys a significant trade surplus in MPPs, accounted for the largest increase in U.S. exports in 2004 (26 percent).

[24] Joan Mazzola, National Commodity Specialist, U.S. Customs and Border Protection, memorandum, New York, NY, Mar. 14, 2005.

U.S. imports

In 2004, U.S. imports of MPPs increased $2.4 billion (16 percent) to $17.3 billion and accounted for about 11 percent of total U.S. MPPs apparent domestic consumption.[25] One industry publication offered a number of possible explanations for the rise, including the movement of manufacturing offshore, high U.S. energy prices, and a slow growth rate in the U.S. plastics processing industry.[26]

Canada and China were the two principal sources of U.S. MPPs imports in 2004, accounting for $5 billion (29 percent) and $4.5 billion (26 percent) of total MPPs imports, respectively. In 2004, U.S. MPPs imports from all Asian countries accounted for $7.7 billion (44 percent) of total U.S. MPPs imports and $1.2 billion (50 percent) of the total increase in MPPs imports.[27] More than 70 percent of U.S. MPPs imports in 2004 consisted of a variety of consumer goods sold at retail and discount establishments; packaging articles, particularly plastic bags and sacks of many varieties; sheet and film used for the packaging of products and other applications; and tableware, kitchenware, and other household articles.

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[25] Apparent domestic consumption was estimated at about $150 billion in 2004.
[26] Steve Toloken, "U.S. Processing Trade Deficit Grows," *Plastics News*, Mar. 21, 2005, pp. 1, 20.
[27] China, Japan, Taiwan, and Korea accounted for the bulk of imports from Asia.

Table CH-3
Chemicals and related products: U.S. trade for industry/commodity groups and subgroups, 2000–2004[1]

USITC code[2]	Industry/commodity group	2000	2001	2002	2003	2004	Change, 2004 from 2003	
							Absolute	*Percent*
				Million dollars				
CH007	Major primary olefins:							
	Exports	299	120	245	217	474	257	118.4
	Imports	3,552	2,913	3,397	4,144	5,908	1,763	42.5
	Trade balance	-3,253	-2,793	-3,152	-3,927	-5,434	-1,506	-38.4
CH008	Other olefins:							
	Exports	264	311	260	343	430	86	25.1
	Imports	156	143	113	127	158	31	24.7
	Trade balance	108	168	147	217	272	55	25.4
CH009	Primary aromatics:							
	Exports	105	122	148	368	782	414	112.7
	Imports	1,563	1,122	1,159	1,450	2,202	752	51.9
	Trade balance	-1,459	-1,000	-1,011	-1,082	-1,420	-338	-31.2
CH010	Organic commodity chemicals:							
	Exports	2,146	1,494	2,010	2,692	4,631	1,939	72.0
	Imports	1,201	1,021	1,111	1,319	1,997	677	51.3
	Trade balance	946	474	898	1,373	2,635	1,262	91.9
CH011	Organic specialty chemicals:							
	Exports	5,980	5,678	5,050	6,004	6,731	727	12.1
	Imports	6,610	6,962	6,781	6,675	6,852	177	2.7
	Trade balance	-630	-1,285	-1,731	-671	-121	550	82.0
CH012	Certain organic chemicals:							
	Exports	8,257	7,774	7,668	8,857	11,283	2,426	27.4
	Imports	5,049	5,148	4,699	4,878	5,811	933	19.1
	Trade balance	3,207	2,626	2,969	3,979	5,472	1,493	37.5
CH013	Miscellaneous inorganic chemicals:							
	Exports	5,218	4,940	4,820	4,903	5,608	705	14.4
	Imports	5,431	5,195	4,948	5,038	5,714	676	13.4
	Trade balance	-212	-255	-128	-135	-106	28	21.2
CH014	Inorganic acids:							
	Exports	246	242	214	219	267	48	21.8
	Imports	251	252	246	229	337	108	47.1
	Trade balance	-5	-9	-32	-10	-70	-60	-608.7
CH015	Chlor-alkali chemicals:							
	Exports	862	1,054	851	897	953	56	6.3
	Imports	162	219	166	206	252	46	22.3
	Trade balance	700	835	685	691	701	10	1.5

See footnote(s) at end of table.

Table CH-3—*Continued*
Chemicals and related products: U.S. trade for industry/commodity groups and subgroups, 2000–2004[1]

USITC code[2]	Industry/commodity group	2000	2001	2002	2003	2004	Change, 2004 from 2003	
							Absolute	*Percent*
				Million dollars				
CH016	Fertilizers:							
	Exports	2,388	2,183	2,184	2,429	2,718	289	11.9
	Imports	3,224	3,478	3,043	4,395	5,510	1,115	25.4
	Trade balance	-836	-1,295	-859	-1,966	-2,792	-826	-42.0
CH017	Paints, inks, and related items, and certain components thereof:							
	Exports	3,802	3,546	3,614	3,918	4,200	282	7.2
	Imports	2,119	2,090	1,996	2,078	2,241	163	7.9
	Trade balance	1,683	1,455	1,618	1,840	1,959	119	6.4
CH018	Synthetic organic pigments:							
	Exports	373	329	331	332	376	44	13.3
	Imports	358	301	319	333	368	35	10.4
	Trade balance	16	29	12	-1	8	9	([3])
CH019	Synthetic dyes and azoic couplers:							
	Exports	436	361	249	226	287	61	27.0
	Imports	481	378	393	395	415	20	5.0
	Trade balance	-45	-16	-143	-169	-128	41	24.4
CH020	Synthetic tanning agents:							
	Exports	18	17	18	32	35	3	8.6
	Imports	7	5	7	8	8	([4])	-5.7
	Trade balance	11	12	12	24	27	3	13.5
CH021	Natural tanning and dyeing materials:							
	Exports	24	26	27	26	44	18	66.9
	Imports	73	65	54	63	70	7	10.9
	Trade balance	-49	-40	-27	-36	-26	11	29.7
CH022	Photographic chemicals and preparations:							
	Exports	507	413	522	475	435	-40	-8.4
	Imports	555	479	435	382	409	27	7.0
	Trade balance	-48	-66	87	93	26	-67	-71.8
CH023	Pesticide products and formulations:							
	Exports	2,038	2,166	2,028	2,316	2,674	358	15.5
	Imports	1,117	1,318	1,185	1,419	1,589	171	12.0
	Trade balance	921	848	842	897	1,085	188	20.9

See footnote(s) at end of table.

Table CH-3—*Continued*
Chemicals and related products: U.S. trade for industry/commodity groups and subgroups, 2000–2004[1]

USITC code[2]	Industry/commodity group	2000	2001	2002	2003	2004	Change, 2004 from 2003	
							Absolute	*Percent*
				Million dollars				
CH024	Adhesives and glues:							
	Exports	602	565	588	600	702	103	17.1
	Imports	194	176	206	251	305	54	21.7
	Trade balance	408	388	382	349	397	48	13.8
CH025	Medicinal chemicals:							
	Exports	15,772	18,169	18,742	22,527	27,098	4,571	20.3
	Imports	29,112	33,956	40,699	49,284	52,677	3,392	6.9
	Trade balance	-13,340	-15,788	-21,957	-26,757	-25,578	1,179	4.4
CH026	Essential oils and other flavoring materials:							
	Exports	1,034	1,109	1,211	1,389	1,462	73	5.3
	Imports	775	736	786	1,754	2,540	786	44.8
	Trade balance	258	373	425	-365	-1,078	-713	-195.1
CH027	Perfumes, cosmetics, and toiletries:							
	Exports	2,851	3,187	3,160	3,435	3,900	465	13.6
	Imports	2,192	2,443	2,716	3,111	3,652	541	17.4
	Trade balance	659	744	444	324	248	-76	-23.4
CH028	Soaps, detergents, and surface-active agents:							
	Exports	2,331	2,223	2,282	2,524	2,929	405	16.0
	Imports	1,050	1,115	1,273	1,369	1,568	199	14.6
	Trade balance	1,280	1,107	1,009	1,156	1,361	205	17.8
CH029	Miscellaneous chemicals and specialties:							
	Exports	2,756	2,862	2,901	3,149	3,444	295	9.4
	Imports	2,020	1,856	1,957	2,150	2,497	347	16.1
	Trade balance	735	1,006	944	999	947	-52	-5.2
CH030	Explosives, propellant powders, and related items:							
	Exports	314	254	286	385	472	86	22.4
	Imports	265	285	302	353	402	49	14.0
	Trade balance	49	-31	-17	33	70	37	113.7
CH031	Polyethylene resins in primary forms:							
	Exports	2,688	2,416	2,590	2,817	3,698	881	31.3
	Imports	1,650	1,735	1,651	2,158	2,505	347	16.1
	Trade balance	1,038	681	938	658	1,192	534	81.2

See footnote(s) at end of table.

Table CH-3—*Continued*
Chemicals and related products: U.S. trade for industry/commodity groups and subgroups, 2000–2004[1]

USITC code[2]	Industry/commodity group	2000	2001	2002	2003	2004	Change, 2004 from 2003	
							Absolute	*Percent*
				Million dollars				
CH032	Polypropylene resins in primary forms:							
	Exports	1,131	1,100	1,188	1,416	1,767	352	24.8
	Imports	251	219	259	298	359	61	20.5
	Trade balance	880	881	929	1,118	1,408	290	26.0
CH033	Polyvinyl chloride resins in primary forms:							
	Exports	716	1,004	781	837	1,044	207	24.7
	Imports	331	332	247	287	383	96	33.3
	Trade balance	385	672	534	550	661	111	20.2
CH034	Styrene polymers in primary forms:							
	Exports	848	731	752	783	929	146	18.6
	Imports	572	579	580	628	833	205	32.7
	Trade balance	276	152	172	155	96	-60	-38.4
CH035	Saturated polyester resins:							
	Exports	629	798	712	814	1,014	200	24.5
	Imports	522	502	537	656	728	72	11.0
	Trade balance	107	296	175	158	285	128	81.1
CH036	Other plastics in primary forms:							
	Exports	7,305	6,766	7,189	7,694	9,106	1,411	18.3
	Imports	2,786	2,649	2,823	3,022	3,488	466	15.4
	Trade balance	4,519	4,117	4,366	4,673	5,618	945	20.2
CH037	Styrene-butadiene rubber in primary forms:							
	Exports	344	297	273	324	374	50	15.3
	Imports	232	258	232	231	235	4	1.7
	Trade balance	112	39	41	93	139	46	49.3
CH038	Other synthetic rubber:							
	Exports	1,317	1,328	1,361	1,478	1,801	323	21.8
	Imports	778	734	725	741	858	116	15.7
	Trade balance	539	594	636	737	943	206	28.0
CH039	Pneumatic tires and tubes (new):							
	Exports	2,414	2,282	2,233	2,212	2,550	338	15.3
	Imports	4,700	4,146	4,694	5,170	6,163	993	19.2
	Trade balance	-2,286	-1,864	-2,460	-2,957	-3,613	-656	-22.2
CH040	Other tires:							
	Exports	89	96	94	98	108	10	10.5
	Imports	137	122	123	137	158	22	15.8
	Trade balance	-48	-26	-29	-39	-50	-11	-29.0

See footnote(s) at end of table.

Table CH-3—*Continued*
Chemicals and related products: U.S. trade for industry/commodity groups and subgroups, 2000–2004[1]

USITC code[2]	Industry/commodity group	2000	2001	2002	2003	2004	Change, 2004 from 2003	
							Absolute	*Percent*
				Million dollars				
CH041	Miscellaneous plastic products:							
	Exports	13,804	12,561	12,567	13,041	14,307	1,267	9.7
	Imports	12,307	12,376	13,459	14,979	17,342	2,363	15.8
	Trade balance	1,497	185	-892	-1,938	-3,035	-1,096	-56.6
CH042	Miscellaneous rubber products:							
	Exports	2,419	2,645	2,437	2,400	2,623	223	9.3
	Imports	2,567	2,549	2,752	3,040	3,568	528	17.4
	Trade balance	-148	96	-315	-641	-945	-305	-47.5
CH043	Gelatin:							
	Exports	66	74	75	92	89	-3	-3.2
	Imports	103	94	96	115	113	-2	-1.8
	Trade balance	-37	-20	-21	-23	-24	-1	-3.5
CH044	Natural rubber:							
	Exports	39	34	40	59	37	-22	-38.0
	Imports	842	613	751	1,047	1,466	418	40.0
	Trade balance	-803	-579	-712	-988	-1,429	-441	-44.6

[1]Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export.

[2]This coding system is used by the U.S. International Trade Commission to identify major groupings and subgroupings of HTS import and export items for trade monitoring purposes

[3]Not meaningful for purposes of comparison.

[4]Less than $500,000.

Note.—Calculations based on unrounded data.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table CH-4
Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
CH007	Major primary olefins:						
	Number of establishments	37	37	37	37	37	0.0
	Employees (thousands)	5.0	5.0	5.0	5.0	5.0	0.0
	Capacity utilization (percent)	97	92	95	95	97	2.1
	U.S. shipments (million dollars)	18,500	17,500	19,000	19,500	21,800	11.8
	U.S. exports (million dollars)	299	120	245	217	474	118.4
	U.S. imports (million dollars)	3,552	2,913	3,397	4,144	5,908	42.5
	Apparent U.S. consumption (million dollars)	21,753	20,293	22,152	23,427	27,234	16.2
	Trade balance (million dollars)	-3,253	-2,793	-3,152	-3,927	-5,434	-38.4
	Ratio of imports to consumption (percent)	16.3	14.4	15.3	17.7	21.7	22.6
	Ratio of exports to shipments (percent)	1.6	0.7	1.3	1.1	2.2	100.0
CH008	Other olefins:						
	Number of establishments	23	23	23	23	23	0.0
	Employees (thousands)	1.0	1.0	1.0	1.0	1.0	0.0
	Capacity utilization (percent)	97	95	97	97	98	1.0
	U.S. shipments (million dollars)	1,500	1,500	1,650	1,800	2,000	11.1
	U.S. exports (million dollars)	264	311	260	343	430	25.1
	U.S. imports (million dollars)	156	143	113	127	158	24.7
	Apparent U.S. consumption (million dollars)	1,392	1,332	1,503	1,583	1,728	9.2
	Trade balance (million dollars)	108	168	147	217	272	25.4
	Ratio of imports to consumption (percent)	11.2	10.7	7.5	8.0	9.1	13.8
	Ratio of exports to shipments (percent)	17.6	20.7	15.7	19.1	21.5	12.6
CH009	Primary aromatics:						
	Number of establishments	31	31	31	31	31	0.0
	Employees (thousands)	2.0	2.0	2.0	2.0	2.0	0.0
	Capacity utilization (percent)	85	85	85	85	85	0.0
	U.S. shipments (million dollars)	5,300	4,900	5,000	5,300	6,890	30.0
	U.S. exports (million dollars)	105	122	148	368	782	112.7
	U.S. imports (million dollars)	1,563	1,122	1,159	1,450	2,202	51.9
	Apparent U.S. consumption (million dollars)	6,759	5,900	6,011	6,382	8,310	30.2
	Trade balance (million dollars)	-1,459	-1,000	-1,011	-1,082	-1,420	-31.2
	Ratio of imports to consumption (percent)	23.1	19.0	19.3	22.7	26.5	16.7
	Ratio of exports to shipments (percent)	2.0	2.5	3.0	6.9	11.3	63.8

See footnote(s) at end of table.

Table CH-4—*Continued*

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
CH014	Inorganic acids:						
	Number of establishments	(1)	(1)	(1)	(1)	(1)	(1)
	Employees (thousands)	(1)	(1)	(1)	(1)	(1)	(1)
	Capacity utilization (percent)	(1)	(1)	(1)	(1)	(1)	(1)
	U.S. shipments (million dollars)	2,276	1,852	2,201	2,557	(1)	(1)
	U.S. exports (million dollars)	246	242	214	219	267	21.8
	U.S. imports (million dollars)	251	252	246	229	337	47.1
	Apparent U.S. consumption (million dollars)	2,281	1,861	2,233	2,567	(1)	(1)
	Trade balance (million dollars)	-5	-9	-32	-10	-70	-608.7
	Ratio of imports to consumption (percent)	11.0	13.5	11.0	8.9	(1)	(1)
	Ratio of exports to shipments (percent)	10.8	13.1	9.7	8.6	(1)	(1)
CH015	Chlor-alkali chemicals:						
	Number of establishments	(1)	(1)	(1)	(1)	(1)	(1)
	Employees (thousands)	(1)	(1)	(1)	(1)	(1)	(1)
	Capacity utilization (percent)	(1)	(1)	(1)	(1)	(1)	(1)
	U.S. shipments (million dollars)	3,396	3,210	(1)	(1)	(1)	(1)
	U.S. exports (million dollars)	862	1,054	851	897	953	6.3
	U.S. imports (million dollars)	162	219	166	206	252	22.3
	Apparent U.S. consumption (million dollars)	2,696	2,375	(1)	(1)	(1)	(1)
	Trade balance (million dollars)	700	835	685	691	701	1.5
	Ratio of imports to consumption (percent)	6.0	9.2	(1)	(1)	(1)	(1)
	Ratio of exports to shipments (percent)	25.4	32.8	(1)	(1)	(1)	(1)
CH016	Fertilizers:						
	Number of establishments	350	350	350	350	348	-0.6
	Employees (thousands)	22.0	22.0	20.0	20.0	20.0	0.0
	Capacity utilization (percent)	78	76	90	81	80	-1.2
	U.S. shipments (million dollars)	7,500	7,000	7,500	8,200	8,000	-2.4
	U.S. exports (million dollars)	2,388	2,183	2,184	2,429	2,718	11.9
	U.S. imports (million dollars)	3,224	3,478	3,043	4,395	5,510	25.4
	Apparent U.S. consumption (million dollars)	8,336	8,295	8,359	10,166	10,792	6.2
	Trade balance (million dollars)	-836	-1,295	-859	-1,966	-2,792	-42.0
	Ratio of imports to consumption (percent)	38.7	41.9	36.4	43.2	51.1	18.3
	Ratio of exports to shipments (percent)	31.8	31.2	29.1	29.6	34.0	14.9

See footnote(s) at end of table.

Table CH-4—*Continued*

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
CH017	Paints, inks, and related items, and certain components thereof:						
	Number of establishments	1,475	1,470	1,450	1,445	1,450	([2])
	Employees (thousands)	16.0	16.0	15.0	16.0	16.0	0.0
	Capacity utilization (percent)	88	85	85	86	85	-1.2
	U.S. shipments (million dollars)	25,000	25,600	26,000	2,660	2,800	5.3
	U.S. exports (million dollars)	3,802	3,546	3,614	3,918	4,200	7.2
	U.S. imports (million dollars)	2,119	2,090	1,996	2,078	2,241	7.9
	Apparent U.S. consumption (million dollars)	23,317	24,145	24,382	820	841	2.6
	Trade balance (million dollars)	1,683	1,455	1,618	1,840	1,959	6.4
	Ratio of imports to consumption (percent)	9.1	8.7	8.2	[3]253.5	[3]266.5	5.1
	Ratio of exports to shipments (percent)	15.2	13.9	13.9	[3]147.3	[3]150.0	1.8
CH018	Synthetic organic pigments:						
	Number of establishments	32	32	32	32	32	0.0
	Employees (thousands)	6.0	6.0	6.0	6.0	6.0	0.0
	Capacity utilization (percent)	85	80	80	75	80	6.7
	U.S. shipments (million dollars)	1,100	1,100	1,110	1,100	1,210	10.0
	U.S. exports (million dollars)	373	329	331	332	376	13.3
	U.S. imports (million dollars)	358	301	319	333	368	10.4
	Apparent U.S. consumption (million dollars)	1,084	1,071	1,098	1,101	1,202	9.1
	Trade balance (million dollars)	16	29	12	-1	8	([4])
	Ratio of imports to consumption (percent)	33.0	28.1	29.0	30.3	30.6	1.0
	Ratio of exports to shipments (percent)	33.9	29.9	29.8	30.2	31.1	3.0
CH019	Synthetic dyes and azoic couplers:						
	Number of establishments	32	32	32	32	32	0.0
	Employees (thousands)	8.0	8.0	8.0	8.0	8.0	0.0
	Capacity utilization (percent)	85	80	80	75	80	6.7
	U.S. shipments (million dollars)	1,320	1,320	1,320	1,320	1,450	9.8
	U.S. exports (million dollars)	436	361	249	226	287	27.0
	U.S. imports (million dollars)	481	378	393	395	415	5.0
	Apparent U.S. consumption (million dollars)	1,365	1,336	1,463	1,489	1,578	6.0
	Trade balance (million dollars)	-45	-16	-143	-169	-128	24.4
	Ratio of imports to consumption (percent)	35.3	28.3	26.8	26.5	26.3	-0.8
	Ratio of exports to shipments (percent)	33.0	27.4	18.9	17.1	19.8	15.8

See footnote(s) at end of table.

Table CH-4—*Continued*
Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
CH020	Synthetic tanning agents:						
	Number of establishments	5	5	5	5	5	0.0
	Employees (thousands)	1.0	1.0	1.0	1.0	1.0	0.0
	Capacity utilization (percent)	85	80	80	75	80	6.7
	U.S. shipments (million dollars)	24	24	24	42	46	9.5
	U.S. exports (million dollars)	18	17	18	32	35	8.6
	U.S. imports (million dollars)	7	5	7	8	8	(2)
	Apparent U.S. consumption (million dollars)	13	12	12	18	19	4.2
	Trade balance (million dollars)	11	12	12	24	27	13.5
	Ratio of imports to consumption (percent)	55.5	41.4	53.6	46.6	42.2	-9.4
	Ratio of exports to shipments (percent)	76.3	70.2	76.5	77.1	76.4	-0.9
CH021	Natural tanning and dyeing materials:						
	Number of establishments	10	10	10	10	10	0.0
	Employees (thousands)	1.0	1.0	1.0	1.0	1.0	0.0
	Capacity utilization (percent)	85	80	80	75	80	6.7
	U.S. shipments (million dollars)	30	30	30	35	45	28.6
	U.S. exports (million dollars)	24	26	27	26	44	66.9
	U.S. imports (million dollars)	73	65	54	63	70	10.9
	Apparent U.S. consumption (million dollars)	79	70	57	71	71	-1.2
	Trade balance (million dollars)	-49	-40	-27	-36	-26	29.7
	Ratio of imports to consumption (percent)	91.9	93.9	95.4	87.9	98.7	12.3
	Ratio of exports to shipments (percent)	78.6	85.8	91.3	75.4	97.9	29.8
CH022	Photographic chemicals and preparations:						
	Number of establishments	5	5	5	5	5	0.0
	Employees (thousands)	1.0	1.0	1.0	1.0	1.0	0.0
	Capacity utilization (percent)	85	80	80	75	75	0.0
	U.S. shipments (million dollars)	(1)	(1)	(1)	(1)	(1)	(1)
	U.S. exports (million dollars)	507	413	522	475	435	-8.4
	U.S. imports (million dollars)	555	479	435	382	409	7.0
	Apparent U.S. consumption (million dollars)	(1)	(1)	(1)	(1)	(1)	(1)
	Trade balance (million dollars)	-48	-66	87	93	26	-71.8
	Ratio of imports to consumption (percent)	(1)	(1)	(1)	(1)	(1)	(1)
	Ratio of exports to shipments (percent)	(1)	(1)	(1)	(1)	(1)	(1)

See footnote(s) at end of table.

Table CH-4—*Continued*

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
CH023	Pesticide products and formulations:						
	Number of establishments	55	55	55	43	43	0.0
	Employees (thousands)	14.0	14.0	14.0	14.0	14.0	0.0
	Capacity utilization (percent)	85	85	85	80	85	6.3
	U.S. shipments (million dollars)	9,790	9,350	9,350	9,100	9,550	4.9
	U.S. exports (million dollars)	2,038	2,166	2,028	2,316	2,674	15.5
	U.S. imports (million dollars)	1,117	1,318	1,185	1,419	1,589	12.0
	Apparent U.S. consumption (million dollars)	8,869	8,502	8,508	8,203	8,465	3.2
	Trade balance (million dollars)	921	848	842	897	1,085	20.9
	Ratio of imports to consumption (percent)	12.6	15.5	13.9	17.3	18.8	8.7
	Ratio of exports to shipments (percent)	20.8	23.2	21.7	25.5	28.0	9.8
CH024	Adhesives and glues:						
	Number of establishments	627	606	585	564	543	-3.7
	Employees (thousands)	21.0	21.0	20.0	20.0	20.0	0.0
	Capacity utilization (percent)	85	85	80	80	80	0.0
	U.S. shipments (million dollars)	7,200	7,200	7,200	7,200	7,200	0.0
	U.S. exports (million dollars)	602	565	588	600	702	17.1
	U.S. imports (million dollars)	194	176	206	251	305	21.7
	Apparent U.S. consumption (million dollars)	6,792	6,812	6,818	6,851	6,803	-0.7
	Trade balance (million dollars)	408	388	382	349	397	13.8
	Ratio of imports to consumption (percent)	2.9	2.6	3.0	3.7	4.5	21.6
	Ratio of exports to shipments (percent)	8.4	7.8	8.2	8.3	9.8	18.1
CH025	Medicinal chemicals:						
	Number of establishments	718	718	715	715	715	0.0
	Employees (thousands)	208.0	208.0	208.0	208.0	212.0	1.9
	Capacity utilization (percent)	85	85	85	75	85	13.3
	U.S. shipments (million dollars)	105,600	107,000	107,000	107,010	113,500	6.1
	U.S. exports (million dollars)	15,772	18,169	18,742	22,527	27,098	20.3
	U.S. imports (million dollars)	29,112	33,956	40,699	49,284	52,677	6.9
	Apparent U.S. consumption (million dollars)	118,940	122,788	128,957	133,767	139,078	4.0
	Trade balance (million dollars)	-13,340	-15,788	-21,957	-26,757	-25,578	4.4
	Ratio of imports to consumption (percent)	24.5	27.7	31.6	36.8	37.9	3.0
	Ratio of exports to shipments (percent)	14.9	17.0	17.5	21.1	23.9	13.3

See footnote(s) at end of table.

Table CH-4—*Continued*

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
CH026	Essential oils and other flavoring materials:						
	Number of establishments	53	53	53	53	53	0.0
	Employees (thousands)	50.0	50.0	50.0	50.0	50.0	0.0
	Capacity utilization (percent)	82	82	82	82	85	3.7
	U.S. shipments (million dollars)	3,500	3,500	3,700	3,900	4,100	5.1
	U.S. exports (million dollars)	1,034	1,109	1,211	1,389	1,462	5.3
	U.S. imports (million dollars)	775	736	786	1,754	2,540	44.8
	Apparent U.S. consumption (million dollars)	3,242	3,127	3,275	4,265	5,178	21.4
	Trade balance (million dollars)	258	373	425	-365	-1,078	-195.1
	Ratio of imports to consumption (percent)	23.9	23.5	24.0	41.1	49.1	19.5
	Ratio of exports to shipments (percent)	29.5	31.7	32.7	35.6	35.7	(2)
CH027	Perfumes, cosmetics, and toiletries:						
	Number of establishments	650	650	650	650	650	0.0
	Employees (thousands)	60.0	59.0	60.0	62.0	60.0	-3.2
	Capacity utilization (percent)	87	87	87	88	89	1.1
	U.S. shipments (million dollars)	23,000	23,300	23,000	24,000	26,000	8.3
	U.S. exports (million dollars)	2,851	3,187	3,160	3,435	3,900	13.6
	U.S. imports (million dollars)	2,192	2,443	2,716	3,111	3,652	17.4
	Apparent U.S. consumption (million dollars)	22,341	22,556	22,556	23,676	25,752	8.8
	Trade balance (million dollars)	659	744	444	324	248	-23.4
	Ratio of imports to consumption (percent)	9.8	10.8	12.0	13.1	14.2	8.4
	Ratio of exports to shipments (percent)	12.4	13.7	13.7	14.3	15.0	4.9
CH028	Soaps, detergents, and surface-active agents:						
	Number of establishments	950	950	950	950	950	0.0
	Employees (thousands)	52.0	52.0	52.0	52.0	50.0	-3.8
	Capacity utilization (percent)	87	87	87	85	88	3.5
	U.S. shipments (million dollars)	18,500	19,500	19,800	21,000	22,500	7.1
	U.S. exports (million dollars)	2,331	2,223	2,282	2,524	2,929	16.0
	U.S. imports (million dollars)	1,050	1,115	1,273	1,369	1,568	14.6
	Apparent U.S. consumption (million dollars)	17,220	18,393	18,791	19,844	21,139	6.5
	Trade balance (million dollars)	1,280	1,107	1,009	1,156	1,361	17.8
	Ratio of imports to consumption (percent)	6.1	6.1	6.8	6.9	7.4	7.2
	Ratio of exports to shipments (percent)	12.6	11.4	11.5	12.0	13.0	8.3

See footnote(s) at end of table.

Table CH-4—*Continued*

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
CH030	Explosives, propellant powders, and related items:						
	Number of establishments	122	120	118	115	115	0.0
	Employees (thousands)	13.0	13.0	13.0	13.0	13.0	0.0
	Capacity utilization (percent)	85	84	85	85	85	0.0
	U.S. shipments (million dollars)	2,080	2,110	2,200	2,285	2,400	5.0
	U.S. exports (million dollars)	314	254	286	385	472	22.4
	U.S. imports (million dollars)	265	285	302	353	402	14.0
	Apparent U.S. consumption (million dollars)	2,031	2,141	2,217	2,252	2,330	3.5
	Trade balance (million dollars)	49	-31	-17	33	70	113.7
	Ratio of imports to consumption (percent)	13.0	13.3	13.6	15.7	17.2	9.6
	Ratio of exports to shipments (percent)	15.1	12.0	13.0	16.9	19.7	16.6
CH031	Polyethylene resins in primary forms:						
	Number of establishments	46	46	46	46	46	0.0
	Employees (thousands)	22.0	22.0	22.0	22.0	22.0	0.0
	Capacity utilization (percent)	88	83	87	85	94	10.6
	U.S. shipments (million dollars)	10,500	9,100	9,000	10,500	13,600	29.5
	U.S. exports (million dollars)	2,688	2,416	2,590	2,817	3,698	31.3
	U.S. imports (million dollars)	1,650	1,735	1,651	2,158	2,505	16.1
	Apparent U.S. consumption (million dollars)	9,462	8,419	8,062	9,842	12,408	26.1
	Trade balance (million dollars)	1,038	681	938	658	1,192	81.2
	Ratio of imports to consumption (percent)	17.4	20.6	20.5	21.9	20.2	-7.8
	Ratio of exports to shipments (percent)	25.6	26.6	28.8	26.8	27.2	1.5
CH032	Polypropylene resins in primary forms:						
	Number of establishments	27	28	28	28	29	3.6
	Employees (thousands)	6.0	6.0	6.0	6.0	6.0	0.0
	Capacity utilization (percent)	88	84	93	93	96	3.2
	U.S. shipments (million dollars)	4,500	4,000	4,500	5,000	6,200	24.0
	U.S. exports (million dollars)	1,131	1,100	1,188	1,416	1,767	24.8
	U.S. imports (million dollars)	251	219	259	298	359	20.5
	Apparent U.S. consumption (million dollars)	3,620	3,119	3,571	3,882	4,792	23.4
	Trade balance (million dollars)	880	881	929	1,118	1,408	26.0
	Ratio of imports to consumption (percent)	6.9	7.0	7.2	7.7	7.5	-2.6
	Ratio of exports to shipments (percent)	25.1	27.5	26.4	28.3	28.5	0.7

See footnote(s) at end of table.

Table CH-4—*Continued*
Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
CH033	Polyvinyl chloride resins in primary forms:						
	Number of establishments	28	28	27	27	27	0.0
	Employees (thousands)	8.0	8.0	7.0	7.0	7.0	0.0
	Capacity utilization (percent)	84	81	91	88	95	8.0
	U.S. shipments (million dollars)	4,200	3,500	4,000	4,500	6,200	37.8
	U.S. exports (million dollars)	716	1,004	781	837	1,044	24.7
	U.S. imports (million dollars)	331	332	247	287	383	33.3
	Apparent U.S. consumption (million dollars)	3,815	2,828	3,466	3,950	5,539	40.2
	Trade balance (million dollars)	385	672	534	550	661	20.2
	Ratio of imports to consumption (percent)	8.7	11.7	7.1	7.3	6.9	-5.5
	Ratio of exports to shipments (percent)	17.1	28.7	19.5	18.6	16.8	-9.7
CH034	Styrene polymers in primary forms:						
	Number of establishments	69	70	71	71	71	0.0
	Employees (thousands)	11.0	11.0	12.0	12.0	12.0	0.0
	Capacity utilization (percent)	94	80	82	82	86	4.9
	U.S. shipments (million dollars)	5,900	5,200	5,700	5,900	7,400	25.4
	U.S. exports (million dollars)	848	731	752	783	929	18.6
	U.S. imports (million dollars)	572	579	580	628	833	32.7
	Apparent U.S. consumption (million dollars)	5,624	5,048	5,528	5,745	7,304	27.2
	Trade balance (million dollars)	276	152	172	155	96	-38.4
	Ratio of imports to consumption (percent)	10.2	11.5	10.5	10.9	11.4	4.6
	Ratio of exports to shipments (percent)	14.4	14.0	13.2	13.3	12.6	-5.3
CH035	Saturated polyester resins:						
	Number of establishments	52	52	54	55	55	0.0
	Employees (thousands)	6.0	6.0	7.0	7.0	7.0	0.0
	Capacity utilization (percent)	85	85	85	85	90	5.9
	U.S. shipments (million dollars)	5,500	5,200	5,500	5,800	7,000	20.7
	U.S. exports (million dollars)	629	798	712	814	1,014	24.5
	U.S. imports (million dollars)	522	502	537	656	728	11.0
	Apparent U.S. consumption (million dollars)	5,393	4,904	5,325	5,642	6,715	19.0
	Trade balance (million dollars)	107	296	175	158	285	81.1
	Ratio of imports to consumption (percent)	9.7	10.2	10.1	11.6	10.8	-6.9
	Ratio of exports to shipments (percent)	11.4	15.3	13.0	14.0	14.5	3.6

See footnote(s) at end of table.

Table CH-4—*Continued*

Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
CH037	Styrene-butadiene rubber in primary forms:						
	Number of establishments	11	11	11	11	11	0.0
	Employees (thousands)	5.0	5.0	5.0	5.0	5.0	0.0
	Capacity utilization (percent)	88	90	92	93	94	1.1
	U.S. shipments (million dollars)	1,460	1,430	1,490	1,600	1,700	6.3
	U.S. exports (million dollars)	344	297	273	324	374	15.3
	U.S. imports (million dollars)	232	258	232	231	235	1.7
	Apparent U.S. consumption (million dollars)	1,348	1,391	1,449	1,507	1,561	3.6
	Trade balance (million dollars)	112	39	41	93	139	49.3
	Ratio of imports to consumption (percent)	17.2	18.6	16.0	15.4	15.1	-1.9
	Ratio of exports to shipments (percent)	23.6	20.8	18.3	20.3	22.0	8.4
CH038	Other synthetic rubber:						
	Number of establishments	34	34	34	(1)	34	(1)
	Employees (thousands)	11.0	11.0	11.0	(1)	11.0	(1)
	Capacity utilization (percent)	83	83	83	(1)	85	(1)
	U.S. shipments (million dollars)	4,380	4,290	4,300	(1)	4,400	(1)
	U.S. exports (million dollars)	1,317	1,328	1,361	1,478	1,801	21.8
	U.S. imports (million dollars)	778	734	725	741	858	15.7
	Apparent U.S. consumption (million dollars)	3,841	3,696	3,664	(1)	3,457	(1)
	Trade balance (million dollars)	539	594	636	737	943	28.0
	Ratio of imports to consumption (percent)	20.2	19.9	19.8	(1)	24.8	(1)
	Ratio of exports to shipments (percent)	30.1	31.0	31.7	(1)	40.9	(1)
CH039	Pneumatic tires and tubes (new):						
	Number of establishments	42	42	42	42	42	0.0
	Employees (thousands)	66.0	63.0	64.0	64.0	64.0	0.0
	Capacity utilization (percent)	93	90	90	92	92	0.0
	U.S. shipments (million dollars)	14,600	13,400	13,500	14,000	14,500	3.6
	U.S. exports (million dollars)	2,414	2,282	2,233	2,212	2,550	15.3
	U.S. imports (million dollars)	4,700	4,146	4,694	5,170	6,163	19.2
	Apparent U.S. consumption (million dollars)	16,886	15,264	15,960	16,957	18,113	6.8
	Trade balance (million dollars)	-2,286	-1,864	-2,460	-2,957	-3,613	-22.2
	Ratio of imports to consumption (percent)	27.8	27.2	29.4	30.5	34.0	11.5
	Ratio of exports to shipments (percent)	16.5	17.0	16.5	15.8	17.6	11.4

See footnote(s) at end of table.

Table CH-4—*Continued*
Chemicals and related products sector: Profile of U.S. industry and market, by industry/commodity groups and subgroups, 2000–2004

USITC code	Industry/commodity group	2000	2001	2002	2003	2004	Percent change, 2004 from 2003
CH040	Other tires:						
	Number of establishments	1,400	1,400	1,400	1,400	1,400	0.0
	Employees (thousands)	8.0	8.0	8.0	8.0	8.0	0.0
	Capacity utilization (percent)	90	90	90	90	90	0.0
	U.S. shipments (million dollars)	1,000	1,100	1,100	1,100	1,100	0.0
	U.S. exports (million dollars)	89	96	94	98	108	10.5
	U.S. imports (million dollars)	137	122	123	137	158	15.8
	Apparent U.S. consumption (million dollars)	1,048	1,126	1,129	1,139	1,150	1.0
	Trade balance (million dollars)	-48	-26	-29	-39	-50	-29.0
	Ratio of imports to consumption (percent)	13.1	10.8	10.9	12.0	13.7	14.2
	Ratio of exports to shipments (percent)	8.9	8.8	8.6	8.9	9.8	10.1
CH044	Natural rubber:						
	Number of establishments	(1)	(1)	(1)	(1)	(1)	(1)
	Employees (thousands)	(1)	(1)	(1)	(1)	(1)	(1)
	Capacity utilization (percent)	(1)	(1)	(1)	(1)	(1)	(1)
	U.S. shipments (million dollars)	(1)	(1)	(1)	(1)	(1)	(1)
	U.S. exports (million dollars)	39	34	40	59	37	-38.0
	U.S. imports (million dollars)	842	613	751	1,047	1,466	40.0
	Apparent U.S. consumption (million dollars)	(1)	(1)	(1)	(1)	(1)	(1)
	Trade balance (million dollars)	-803	-579	-712	-988	-1,429	-44.6
	Ratio of imports to consumption (percent)	(1)	(1)	(1)	(1)	(1)	(1)
	Ratio of exports to shipments (percent)	(1)	(1)	(1)	(1)	(1)	(1)

[1] Not available.
[2] Less than 0.05 percent.
[3] Inventory changes, for which data are not available, likely account for ratios that exceed 100 percent.
[4] Not meaningful.

Note.—Calculations based on unrounded data.

Source: These data have been estimated by the Commission's international trade analysts on the basis of primary and secondary data sources including discussions with various Government and industry contacts. These estimated data are subject to change either from secondary sources or from detailed surveys the Commission often conducts in the course of statutory investigations or other work. Further, these data may undergo adjustments based on revisions in tariff nomenclature, classification practices, or redefinitions of industry classes.